

WHAT IS CLAIMED IS

1. A method for presenting results data in a distributed computing environment,
5 comprising:

accessing a presentation schema in the distributed computing environment,
wherein the presentation schema includes information for presenting
results data for clients in the distributed computing environment;

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accessing results data for a client in the distributed computing environment; and

presenting the results data for the client in accordance with the information from
the presentation schema.

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2. The method as recited in claim 1, further comprising a service in the distributed
computing environment generating the results data prior to said accessing the results data.

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3. The method as recited in claim 2, wherein said generating the results data is
performed in response to the client sending a request message in a data representation
language to the service, wherein the request message requests the service to perform a
function on behalf of the client, and wherein the function generates the results data when
performed by the service.

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4. The method as recited in claim 3, wherein the data representation language is
eXtensible Markup Language (XML).

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5. The method as recited in claim 2, wherein said accessing results data for a client
in the distributed computing environment comprises receiving the results data from the
service in one or more messages in the data representation language.

6. The method as recited in claim 2, wherein said generating the results data comprises the service storing the results data on a results space in the distributed computing environment.

5 7. The method as recited in claim 6, wherein said accessing results data for a client in the distributed computing environment comprises accessing the results data from the results space.

8. The method as recited in claim 6, wherein said accessing results data for a client
10 in the distributed computing environment comprises:

providing a results advertisement for the results data stored on the results space,
15 wherein the results advertisement includes information for enabling access
of the results data; and

accessing the results data from the results space in accordance with the results
advertisement.

9. The method as recited in claim 2, wherein the presentation schema is provided by
20 the service.

10. The method as recited in claim 1, wherein the presentation schema is comprised in
a presentation schema advertisement comprised on a storage device in the distributed
computing environment, wherein the storage device is operable to store a plurality of
25 presentation schema advertisements, and wherein said accessing the presentation schema
comprises accessing the presentation schema advertisement from the storage device
through a space service.

11. The method as recited in claim 1, wherein the presentation schema advertisement
30 is an eXtensible Markup Language (XML) document.

12. The method as recited in claim 1, wherein the information for presenting results data in the presentation schema includes information to facilitate the presentation of results data to the client in an audio format.

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13. The method as recited in claim 1, wherein the information for presenting results data in the presentation schema includes information to facilitate the presentation of results data to the client in a visual format.

10 14. The method as recited in claim 1, wherein the information for presenting results data in the presentation schema includes information to facilitate the display of results data to the client on a display device.

15 15. The method as recited in claim 1, wherein the results data comprises a plurality of data elements, and wherein the presentation schema comprises a plurality of presentation elements each including information describing presentation characteristics of one or more of the plurality of data elements.

20 16. The method as recited in claim 15, wherein each of the plurality of presentation elements further comprises information for locating the one or more data elements associated with the presentation element, and wherein said presenting the results data for the client in accordance with the information from the presentation schema comprises:

accessing a first presentation element in the plurality of presentation elements;

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accessing one or more data elements associated with the first presentation element in accordance with the information for locating the one or more data elements included in the first presentation element; and

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presenting the one or more data elements for the client in accordance with the information describing the presentation characteristics of the one or more data elements included in the first presentation element.

5 17. The method as recited in claim 16, further comprising repeating said accessing a first presentation element, said accessing one or more data elements, and said presenting the one or more data elements for each of the plurality of presentation elements.

10 18. The method as recited in claim 1, wherein said accessing a presentation schema in the distributed computing environment, said accessing results data for a client in the distributed computing environment, and said presenting the results data for the client are performed by a data presentation process.

15 19. The method as recited in claim 18, wherein the client is executing within a first device in the distributed computing environment, and wherein the data presentation process is executing within a second device in the distributed computing environment.

20 20. The method as recited in claim 18, wherein the data presentation process accessing the results data comprises:

the client receiving the results data from the service; and

the client providing the results data to the data presentation process.

25 21. The method as recited in claim 18, wherein the data presentation process accessing the results data comprises:

the client receiving information for accessing the results data from the service;
and

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the client providing the information for accessing the results data to the data presentation process.

22. The method as recited in claim 18, wherein the data presentation process in the
5 distributed computing environment accessing the presentation schema comprises:

the client receiving information for accessing the presentation schema; and

10 the client providing the information for accessing the presentation schema to the
data presentation process.

23. The method as recited in claim 18, wherein the data presentation process in the
distributed computing environment accessing the presentation schema comprises:

15 the client receiving the presentation schema; and

the client providing the presentation schema to the data presentation process.

20 24. A distributed computing system, comprising:

a service device configured to generate results data;

a data presentation device;

25 a first device configured to:
a first device configured to:

access a presentation schema, wherein the presentation schema includes
information for presenting the results data;

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access the results data generated by the service device; and

present the results data on the data presentation device in accordance with
the information in the presentation schema for the results data.

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25. The system as recited in claim 24, further comprising a client device configured to
send a request message in a data representation language to the service device, wherein
the service device is configured to perform a function on behalf of the client device in
response to the request message, and wherein the function is configured to generate the
10 results data when performed by the service device.

26. The system as recited in claim 24, wherein, in said accessing the results data, the
first device is further configured to receive the results data from the service device in one
or more data representation language messages, wherein the data representation language
15 is eXtensible Markup Language (XML).

27. The system as recited in claim 24, further comprising:

20 a results space;
wherein, in said generating the results data, the service device is further
configured to store the results data to the results space; and

25 wherein the service device is further configured to provide a results advertisement
for the results data stored on the results space, wherein the results
advertisement includes information for enabling access of the results data;
and

30 wherein the first device is further configured to access the results data from the
results space in accordance with the results advertisement.

28. The system as recited in claim 24, further comprising:
5 a storage device, wherein the presentation schema is comprised in a presentation
 schema advertisement comprised on the storage device; and

 a space service for accessing advertisements comprised on the storage device;

 wherein, in said accessing the presentation schema, the first device is further
10 configured to access the presentation schema advertisement from the
 storage device through the space service.

15 29. The system as recited in claim 24, wherein the presentation schema advertisement
 is an eXtensible Markup Language (XML) document.

20 30. The system as recited in claim 24, wherein the information for presenting results
 data in the presentation schema includes information to facilitate the presentation of
 results data to the client in an audio format, and wherein, in said presenting the results
 data on the data presentation device, the first device is further configured to present the
 results data in an audio format on the data presentation device.

25 31. The system as recited in claim 24, wherein the information for presenting results
 data in the presentation schema includes information to facilitate the presentation of
 results data to the client in a visual format, and wherein, in said presenting the results data
 on the data presentation device, the first device is further configured to present the results
 data in a visual format on the data presentation device.

30 32. The system as recited in claim 31, wherein the data presentation device is a
 display device.

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33. The system as recited in claim 24, wherein the results data comprises a plurality of data elements, wherein the presentation schema comprises a plurality of presentation elements each including information describing presentation characteristics of one or more of the plurality of data elements, wherein each of the plurality of presentation elements further comprises information for locating the one or more data elements associated with the presentation element, and wherein, in said presenting the results data on the data presentation device, the first device is further configured to:

10 access a first presentation element in the plurality of presentation elements;

access one or more data elements associated with the first presentation element in accordance with the information for locating the one or more data elements included in the first presentation element; and

15 present the one or more data elements on the data presentation device in accordance with the information describing the presentation characteristics of the one or more data elements included in the first presentation element.

34. The system as recited in claim 33, wherein the first device is further configured to
20 repeat said accessing a first presentation element, said accessing one or more data elements, and said presenting the one or more data elements for each of the plurality of presentation elements.

35. The system as recited in claim 24, wherein the first device comprises a data presentation process executable on the first device, wherein said accessing a presentation schema in the distributed computing environment, said accessing results data for a client in the distributed computing environment, and said presenting the results data are performed by the data presentation process.

30 36. The system as recited in claim 35, wherein the first device further comprises a

client process executable on the first device and configured to send a request message in a data representation language to the service device, wherein the service device is configured to perform a function on behalf of the client process in response to the request message, and wherein the function is configured to generate the results data when performed by the service device.

37. The system as recited in claim 24, wherein the first device comprises the data presentation device.

10 38. The system as recited in claim 24, wherein the first device further comprises:

a data presentation process executable on the first device; and

15 a client process executable on the first device, wherein said access the results data generated by the service device is performed by the client process, and wherein the client process is configured to provide the results data to the data presentation process;

20 wherein said presenting the results data is performed by the data presentation process.

39. The system as recited in claim 24, wherein the first device further comprises:

a data presentation process executable on the first device; and

25 a client process executable on the first device, configured to:

access information for accessing the results data generated by the service device; and

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provide the information for accessing the results data to the data presentation process;

5 wherein said accessing the results data generated by the service device is performed by the data presentation process in accordance with the information for accessing the results data provided by the client process, and wherein said presenting the results data is performed by the data presentation process.

10 40. The system as recited in claim 24, wherein the first device further comprises:

a data presentation process executable on the first device; and

15 a client process executable on the first device, configured to:

receive information for accessing the presentation schema; and

provide the information for accessing the presentation schema to the data presentation process;

20 wherein said accessing a presentation schema is performed by the data presentation process in accordance with the information for accessing the presentation schema provided by the client process.

25 41. The system as recited in claim 24, wherein the first device further comprises:

a data presentation process executable on the first device; and

30 a client process executable on the first device, configured to:

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access the presentation schema; and

provide the presentation schema to the data presentation process;

5 wherein said presenting the results data is performed by the data presentation process in accordance with the presentation schema provided by the client process.

10 42. A distributed computing system, comprising:

a storage device; and

15 a service device configured to store a presentation schema advertisement on the storage device;

wherein the presentation schema advertisement includes information for presenting results data produced by the service device on behalf of a client in the distributed computing system.

20 43. The system as recited in claim 42, wherein the service device is further configured to generate the results data for the client in response to receiving a request for the results data.

25 44. The system as recited in claim 42, further comprising a space service configured to provide the presentation schema advertisement stored on the storage device to the client, wherein the client is operable to display the results data in accordance with the information for presenting the results data included in the presentation schema advertisement.

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45. The system as recited in claim 42, further comprising:

a results space configured to store results data;

5 wherein the service device is further configured to store the results data on the results space.

46. A device comprising:

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a data presentation component; and

15 a client component configured to:

access a presentation schema, wherein the presentation schema includes information for presenting results data generated by a service in a distributed computing environment;

20 access the results data generated by the service; and

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present the results data on the data presentation component in accordance with the information in the presentation schema for the results data.

47. The device as recited in claim 46, wherein the client component is further 25 configured to send a message to the service requesting the results data, wherein the service is operable to generate the results data for the client in response to receiving the message.

48. A carrier medium comprising program instructions, wherein the program 30 instructions are computer-executable to implement:

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accessing a presentation schema in a distributed computing environment, wherein
the presentation schema includes information for presenting results data
for clients in the distributed computing environment;

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accessing results data for a client in the distributed computing environment; and

presenting the results data for the client in accordance with the information from
the presentation schema.

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49. The carrier medium as recited in claim 48, wherein the results data is generated by
a service in the distributed computing environment, and wherein the presentation schema
is provided by the service.

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50. The carrier medium as recited in claim 48, wherein the presentation schema is
comprised in a presentation schema advertisement comprised on a storage device in the
distributed computing environment, wherein the storage device is operable to store a
plurality of presentation schema advertisements, and wherein, in said accessing the
presentation schema, the program instructions are further computer-executable to
20 implement accessing the presentation schema advertisement from the storage device
through a space service associated with the storage device.

51. The carrier medium as recited in claim 48, wherein the presentation schema
advertisement is an eXtensible Markup Language (XML) document.

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52. The carrier medium as recited in claim 48, wherein the information for presenting
results data in the presentation schema includes information to facilitate the presentation
of results data to the client in an audio format.

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53. The carrier medium as recited in claim 48, wherein the information for presenting results data in the presentation schema includes information to facilitate the display of results data to the client on a display device.

5 54. The carrier medium as recited in claim 48, wherein the results data comprises a plurality of data elements, and wherein the presentation schema comprises a plurality of presentation elements each including information describing presentation characteristics of one or more of the plurality of data elements.

10 55. The carrier medium as recited in claim 54, wherein each of the plurality of presentation elements further comprises information for locating the one or more data elements associated with the presentation element, and wherein, in said presenting the results data for the client in accordance with the information from the presentation schema, the program instructions are further computer-executable to implement:

15 accessing a first presentation element in the plurality of presentation elements;

20 accessing one or more data elements associated with the first presentation element in accordance with the information for locating the one or more data elements included in the first presentation element; and

25 presenting the one or more data elements for the client in accordance with the information describing the presentation characteristics of the one or more data elements included in the first presentation element.

30 56. The carrier medium as recited in claim 55, wherein the program instructions are further computer-executable to implement repeating said accessing a first presentation element, said accessing one or more data elements, and said presenting the one or more data elements for each of the plurality of presentation elements.

57. The carrier medium as recited in claim 48, wherein said accessing a presentation schema in the distributed computing environment, said accessing results data for a client in the distributed computing environment, and said presenting the results data for the client are performed by a data presentation process, wherein the client is executing within
5 a first device in the distributed computing environment, and wherein the data presentation process is executing within a second device in the distributed computing environment.

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